We claim:

1. A device for analyzing a signal having variations that define a monodimensional function, said signal having been collected, filtered, sampled and digitized, comprising:

means for memorizing the digitized signal in a memory, and

processor means for analyzing the memorized signal, comprising:

extracting means for decomposing the signal into a plurality of N elementary waves, each wave comprising a parameterized bump function, wherein each bump function is a continuous function having three successive intervals including a first monotonic parameterized function, an affine function, and a second monotonic parameterized function, one of said first and second monotonic parameterized functions being an increasing function and the other being a decreasing function; and

classifying means for recognizing at least one characteristic parameter of each N elementary wave, and allotting to said wave a standardized label selected from among a plurality of predetermined labels, according to said at least one recognized characteristic parameter.

2. The device of claim 1 wherein said device comprises an active medical device and said signal is a physiological signal collected by said device.

3. The device of claim 1 wherein said monodimensional function comprises a temporal dimension.

4. The device of claim 3 wherein said signal is an electrocardiographic signal forming a wave of the PQRST type.

5. The device of claim 4 wherein said analyzing means further comprises a subtracting means for withdrawing from the memorized signal at least one of the determined N elementary waves carrying an allotted label.

6. The device of claim 4 wherein said N elementary waves further comprise five waves.

7. The device of claim 6 wherein said predetermined labels comprise the P, Q, R, S and T waves of said electrocardiographic signal.

8. The device of claim 7 wherein the device further comprises means for determining a variability over time of at least one specific factor of at least one of the determined N elementary waves.

9. The device of claim 8 wherein said specific factor is selected from among an amplitude of the T wave, a temporal interval between the QRS wave and the T wave, a PR interval, an amplitude of the P wave, and a direction of a significant axis determined by a PCA analysis.

10. The device of claim 7 further comprising means for determining a temporary correlation of a specific factor between at least two of said determined elementary N waves.

11. The device of claim 10 wherein said specific factor is selected from among an amplitude of the T wave, a temporal interval between the QRS wave and the T wave, a PR interval, an amplitude of the P wave, and a direction of a significant axis determined by a PCA analysis.

12. The device of claim 4 wherein said electrocardiographic signal comprises a signal obtained by a PCA analysis and projection of the principal components on a significant axis.

13. The device of claim 12 wherein said significant axis comprises a dynamically computed axis of maximum amplitude.

14. The device of claim 1 wherein said affine function is a function having a null slope.

15. The device of claim 1 wherein each of said parameterized functions comprises a half-Gaussian function.

16. The device of claim 1 wherein said affine function is a function having a null slope and said first and second monotonic parameterized functions are each a half-Gaussian function, and said characteristic parameters further comprise a set of five parameters selected from among the standard deviation of each of the two half-Gaussian functions, a definition interval length of the affine function, an ordinate position of said interval, and a peak amplitude of said half-Gaussian function.

17. The device of claim 1 wherein said extracting means further comprises:

a library containing a plurality of predetermined bump types;

means for selecting from said library, for each of said N elementary waves, a bump type that is the most relevant in regard to the signal to be decomposed; and

means for adapting the parameters of each of the N selected bump-types and minimizing a variation between the signal and the composition of the parameterized N bump-types.

18. The device of claim 17 wherein the selecting means operates by an orthogonalisation of said selected most relevant bump-type.

19. The device of claim 17 wherein said adapting means performs a non-linear optimization under constraints of said parameters.

20. The device of claim 1 wherein said classifying means further comprises means for implementing hidden Markov models.